

ORNITHOLOGICAL LITERATURE

THE AMERICAN WOODCOCK. By Olin Sewall Pettingill, Jr. Vol. 9, No. 2. *Memoirs Boston Soc. Nat. Hist.* Boston (234 Berkeley St.), 1936. Pp. 168-391, Pls. 13-21. Price, \$3.50, paper.

Dr. Pettingill's conclusion of his work on the Woodcock now adds a most important monograph to our ornithological literature. One of the directions of progress now open in general is the collection of scattered facts and their compilation into monographs of single species, with such factual contribution as the author may be prepared to make. Being a monograph this paper discusses every aspect of the species, so far as we can judge.

There have been a number of debated points concerning certain habits of the Woodcock. In the past some have thought that the call note of the Woodcock has been made by the voice apparatus; while others have claimed that it is made mechanically by the wing or other structures. Pettingill concludes that sounds are made in both ways. The author discounts the claim that the Woodcock carries the young away in the event of danger. The peculiar anatomy of the Woodcock bill, which adapts it as a probing and prehensile organ, is described. The structure, distribution, breeding habits, and ecological relations are fully considered. An extensive bibliography is given. Ten plates of photographs and a colored frontispiece are the illustrations. Only one thousand copies of this work were printed, which, we trust, will be sufficient to meet all demands.—T.C.S.

THE NORTHERN BOB-WHITE'S WINTER TERRITORY. By Paul L. Errington and F. N. Hamerstrom, Jr. *Research Bull. No. 201, 1a. Agric. Exp. Sta. and Ia. State Coll.* Pp. 301-443. Ames, Iowa, 1936.

While this report deals primarily with the problems of game management, yet it is based on a native species and contains a considerable amount of life history material. The report is based upon studies in Wisconsin and Iowa, and is limited to the winter season, which is the critical season for this species in the northern part of its range.

Part I of the bulletin deals chiefly with field methods. It has been shown that a given Bob-white cover has a fixed "carrying capacity", meaning that any given area will support a definitely limited number of birds, and any number over this becomes an excess population subject to predation and starvation. The carrying capacity must be determined by the census method. One of the important contributions in this paper is the discussion of census technique on winter Bob-white populations. In the main there are two census methods, one called the "track count", the other called the "flush count". Of these the authors find the method of counting the number in a covey by tracks in the snow to be the most serviceable and reliable. In all methods of census-taking much skill may be developed; in fact it seems to require the highest type of woodcraft and detective skill. This discussion is instructive and entertaining.

Part II is a lengthy presentation of fundamental data. Part III is entitled "Analysis of Carrying Capacity", while Part IV deals with management. The conception of carrying capacity is a truly important one. And there probably is a limited carrying capacity for every kind of living thing on the earth—not alone for game birds. It is embodied in the idea of the struggle for existence. In the older biological phraseology the individuals in an excess population are presented